UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

July 15, 2014

Mr. David A. Noble
City Engineer/Director of Community Development
City of Ottawa
301 W. Madison Street
Ottawa, Illinois 61350

RE: City of Ottawa – Brownfield Assessment
Cooperative Agreement # BF00E01087-0
Sampling Plan Approval – Former Central School Properties – Parcel "B" West

Dear Mr. Noble:

I have reviewed both your site specific Sampling Plan and Health and Safety Plan [dated July 14, 2014] for the Former Central School Properties [Parcel "B" West] located at 400 Clinton Street, Ottawa, Illinois. Based on the approved QAPP prepared by Fehr-Graham & Associates, LLC; and the February 26, 2013, acceptance of your determination of eligibility for brownfields funds, it appears you are ready to start sampling as planned.

Please contact me if anything changes or if you have any questions. Don't forget to send me copy of the reports and update the ACRES database with the property profile form for this site.

Thanks.

Romona R. Smith

Romona R. Smith
Brownfields Project Manager/Officer

cc: Rob Wilhelmi, Project Manager, Fehr Graham
Joel Zirkel, Fehr Graham

## Smith, Romona

**From:** Dave Noble <cityengineer@cityofottawa.org>
**Sent:** Monday, July 14, 2014 4:41 PM
**To:** Smith, Romona
**Cc:** 'Rob Wilhelmi'
**Subject:** Ottawa Central School Track area - URGENT SAP REQUEST

HI Romona,

You should be receiving a request to approve an SAP for the Central School track area, Parcel B west. We are surprised to find that a drilling contractor is available if we can do begin the work in a week or so.

I know this is very short notice, but we would be very appreciative if you could take a look at the SAP and let us know if we can proceed.

As always, thank you for your help and consideration.

**Dave Noble**
**Ottawa City Engineer**
**815-433-0161 x220**

## Smith, Romona

**From:** Rob Wilhelmi <RWilhelmi@fehr-graham.com>
**Sent:** Monday, July 14, 2014 1:50 PM
**To:** Smith, Romona
**Cc:** Joel Zirkle; Dave Noble
**Subject:** URGENT SAP Request (BF- 00E01087-0)
**Attachments:** Central School USEPA Haz ED - Parcels A and B.pdf; RMW 12-569H-A04B - Central School SAP - Final Version.pdf

RE: City of Ottawa - Central School Properties Parcel B West SAP
2012 Community-Wide Assessment Grant
BF- 00E01087-0

Hello Romona,

We apologize for the short notice, but the City of Ottawa has a narrow window of opportunity to continue assessment activities on the track and field area (Parcel B West) of the former Central School Properties Remediation Site that has been previously granted eligibility for. A copy of that Eligibility Determination has been attached for reference. Previous investigation activities have been completed at other areas of the parcel to the east, however, the subject area was not evaluated initially because the redevelopment potential had not yet been realized. Therefore, we have prepared and attached a Sampling & Analysis Plan for your review. With the summer months being a busy time of year to securing drilling contractors, it appears as if we have an opportunity to secure a reputable contractors the last week of July or the first week of August. We are respectfully requesting an expedited review in order to lock in the drilling contractor for those open days. As always, a Site Specific Health & Safety Plan will be submitted prior to the work.

Thanks you and please call or email me with any questions.

**ROBERT WILHELMI | Project Manager**
**Fehr Graham - Engineering & Environmental**
**Celebrating FORTY YEARS**

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# SAMPLING AND ANALYSIS PLAN

Former Central School Properties
Parcel B West
400 Clinton Street
Ottawa, Illinois 61350

**CA No. BF-00E01087-0**

**Project No.: 12-569H-A04B**

**July 14, 2014**


FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

**200 Prairie Street, Suite 208**

**Rockford, Illinois 61107**


**Prepared for:**

**City of Ottawa**

**301 West Madison Street**

**Ottawa, Illinois 61350**

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**FIGURES**

## Sampling & Analysis Plan Distribution List

| Copy No. | Name/Title | Phone |
|---|---|---|
| 1 | Romona Smith - USEPA<br>Project Manager | (312) 886-6139 |
| 2 | Dave Noble - City of Ottawa<br>City Engineer | (815) 433-0161 |
| 3 | Mike Sutfin - City of Ottawa<br>Building and Zoning Official | (815) 433-0161 |
| 4 | Robert Wilhelmi - Fehr Graham<br>Project Manager | (815) 394-4700 - Office<br>(815) 821-3592 - Cell |
| 5 | Ms. Nancy Huston - Tall Oak Associates, Inc.<br>c/o Nicor Gas | (630) 558-9556 |

# 1.0 INTRODUCTION AND BACKGROUND

This Sampling and Analysis Plan (SAP) is submitted in response to ongoing Brownfields initiative work conducted by the City of Ottawa, Illinois, at a valuable redevelopment project site located at 400 Clinton Street. The site is currently owned by the City of Ottawa and is located adjacent to the Illinois River, immediately south of the City's downtown commercial district. The site contains two (2) land parcels, Parcel A and Parcel B, which total approximately 16.3 acres. The athletic track and field area that is subject to this SAP is located on 4.32 acres at the western region of Parcel B. A Site Vicinity Map showing the location of the Parcels A and B is presented as Figure 1. A Site Plan is presented as Figure 2 that delineates the track and field area from the additional parcels associated with the overall project that are also undergoing a concurrent investigation.

The site currently contains an underutilized athletic track and field that is immediately adjacent to the former Central Elementary School, which was razed during the summer of 2013. Parcel A, which contains the former school building and the northern and eastern areas of Parcel B, are undergoing investigation and corrective action under the Illinois Environmental Protection Agency's (IEPA) Site Remediation Program (SRP) as a result of contaminants identified during previous Phase I and Phase II activities. Historically, the athletic track and field was utilized by the former Central Elementary School, which was vacated in September of 2008, as a result of a critical flooding event. The school was damaged beyond repair, condemned, and subsequently demolished to clear the land for a proposed public-use redevelopment project. The relocation of the school has caused the track and field to become underutilized and thus more attractive for redevelopment to support revitalization efforts proposed for the remainder of Parcel B and Parcel A.

Using the City of Ottawa's 2008 Brownfields Assessment Grant Funds, Fehr Graham conducted an AAI compliant Phase I ESA (dated December 6, 2012) prior to the City purchasing Parcels A and B in early February of 2013. The Phase I ESA identified Recognized Environmental Conditions (RECs) associated with the athletic track and field area related to a historical manufactured gas plant (MGP) that operated on the site from approximately 1872 - 1931.

The primary goal of the project is to thoroughly assess the environmental concerns through a flexible SAP, which may allow for potential cleanup activities to be completed in an efficient and effective means, if required. Current redevelopment plans propose construction of a publically-owned civic building and amphitheater for the track and field area, with the balance of Parcels A and B to contain festival grounds for other approved public events and a marina to attract a prevalent boating population that utilizes the abutting Illinois River.

The 4.32 acre track and field area was historically enrolled in the IEPA's SRP by Nicor Gas and a Comprehensive No Further Remediation (NFR) letter was issued on January 3, 2007. However, at that time, assessment of the indoor inhalation pathway for soil gas was not a component of 35 IAC Part 742 and therefore was not subject to evaluation during the investigation. On July 15, 2013, amendments to 35 IAC Part 742 became final that now require this pathway to undergo evaluation in the SRP.

The intent of this SAP is to provide a flexible plan for soil and soil gas sampling activities to evaluate if contaminant impacts are present as a result of the RECs. Subsequent sampling events may be required, based on the results of the initial sampling described herein. We will continue to follow our prior approved Quality Assurance Project Plan (QAPP) that was submitted to the United States EPA (USEPA) and has undergone annual updates to maintain compliance with current sampling methods. The QAPP's primary objective is to describe the personnel, procedures, and methods for ensuring the quality, accuracy, and precision of the data associated with the City of Ottawa's Brownfields Assessment Program. An electronic CD copy of the QAPP is available in the field via laptop or electronic note pad to reference all Standard Operating Procedures (SOPs).

# 2.0 SAMPLING DESIGN STRATEGY

## 2.1 Sampling Location

Based on the Phase I ESA, concerns related to potential MGP impacts have been identified and targeted for further investigation. Table 1 summarizes the proposed soil boring sampling rationale for assessing the track and field area, in addition to the proposed constituents subject to laboratory analysis. The soil boring identification numbers correlate to the proposed Fehr Graham soil borings plotted on the Site Plan presented in Figure 2.

TABLE 1
Soil Boring and QA/QC Rationale

| Boring ID No. | Location | Proposed Depth (ft) | Proposed Sample Collection Rationale and Depth | Contaminants of Concern | | Notes / Recognized Environmental Condition (REC) | Total Soil Samples | Total Water Samples | Total Soil Gas Samples |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Soil Analysis Parameters | Groundwater Analysis Parameters | | | | |
| FG-SB33 | East of B&V SB-08/SB-09 | Bedrock / Refusal | Historical B&V soil borings SB-08 and SB-09 to the west identified MGP material at a depth of 5 - 11 feet bgs inside former purifier/report structure. If evidence of MGP material is present in this range, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Former Purifier/Retort Area | 1 - 2 | - | - |
| FG-SB34 | B&V SB-12 | Bedrock / Refusal (~17') | Historical B&V soil probe identified various amounts of coal tar coated/saturated material at a depth of 10 - 17 feet bgs. If evidence of MGP material is present at depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB35 | East of B&V SB-16 | Bedrock / Refusal (~17') | Historical B&V soil probe identified various amounts of coal tar coated/saturated material at a depth of 10 - 17 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. **If crushed aggregate is encountered throughout the boring, the boring was advanced within the limits of the former tar well structure and will need to be adjusted accordingly until outside the former structure.** | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Former Tar Well Area | 1 - 2 | - | - |
| FG-SB36 | B&V SP-07 | Bedrock / Refusal (~19.5') | Historical B&V soil probe identified coal tar coated materials at a depth of ~14 feet bgs. If evidence of MGP material is present near this depth, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. **If crushed aggregate is encountered throughout the boring, the boring was advanced within the limits of the former gas holder and will need to be adjusted to the east until outside the former gas holder.** | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Former Northern Gas Holder | 1 - 2 | - | - |
| FG-SB37 | Southeast of B&V SP-15 | Bedrock / Refusal (~25.5') | Historical B&V soil probe identified coal tar coated/saturated material at a depth of 24 - 25.5 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Former Northern Gas Holder | 1 - 2 | - | - |
| FG-SB38 | B&V SP-44 | Bedrock / Refusal (~10') | Historical B&V soil probe identified coal tar coated materials at a depth of 9 - 10 feet bgs. If evidence of MGP material is present in the upper 10 feet bgs, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB39 | B&V SP-51 | Bedrock / Refusal (~12.5') | Historical B&V soil probe identified coal tar coated/saturated material at a depth of 10 - 12.5 feet bgs. If evidence of MGP material is present in this range, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. **If crushed aggregate is encountered in the boring, the boring was advanced within the limits of the former purifier/retort structure and will need to be adjusted accordingly until outside the former structure.** | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB40 | East of B&V SP-52 | Bedrock / Refusal (~18.5') | Historical B&V soil probe identified coal tar coated/saturated material at a depth of ~11 - 14 feet bgs. If evidence of MGP material is present in this range, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. **If crushed aggregate is encountered in the boring, the boring was advanced within the limits of the former purifier/retort structure and will need to be adjusted accordingly until outside the former structure.** | TCL VOCs<br>TCL SVOCs<br>TPH | NA | Historical MGP Operations | 1 - 2 | - | - |

TABLE 1
Soil Boring and QA/QC Rationale

| Boring ID No. | Location | Proposed Depth (ft) | Proposed Sample Collection Rationale and Depth | Contaminants of Concern | | Notes / Recognized Environmental Condition (REC) | Total Soil Samples | Total Water Samples | Total Soil Gas Samples |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Soil Analysis Parameters | Groundwater Analysis Parameters | | | | |
| FG-SB41 | B&V SP-57 | Bedrock / Refusal (~20') | Historical B&V soil probe identified coal tar coated/saturated material at a depth of ~11 - 12 feet bgs. If evidence of MGP material is present in this range, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Former Purifier/Retort Area | 1 - 2 | - | - |
| FG-SB42 | B&V SP-61 | Bedrock / Refusal (~20') | Historical B&V soil probe identified traces of coal tar at a depth of 19 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Former Tar Well Area | 1 - 2 | - | - |
| FG-SB43 | B&V SP-90 | Bedrock / Refusal (~21') | Historical B&V soil probe identified coal tar coated clinkers with heavy tar odor at a depth of 7 - 8 feet bgs. If evidence of MGP material is present in the upper 10 feet bgs, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations; Evaluation of Proposed Harbor | 1 - 2 | - | - |
| FG-SB44 | South of B&V SP-96 | Bedrock / Refusal (~26') | Historical B&V soil probe identified coal tar coated/saturated material at a depth of ~25 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB45 | B&V SP-100 | Bedrock / Refusal (~15') | Historical B&V soil probe identified coal tar saturated material at a depth of 15 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB46 | B&V SP-108 | Bedrock / Refusal (~20.5') | Historical B&V soil probe identified coal tar saturated material at a depth of 20.5 feet bgs. If evidence of MGP material is present in the vicinity of this depth, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Former Tar Well Area | 1 - 2 | - | - |
| FG-SB47 | Northwest Corner - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria if MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB48 | Northeast Corner - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB49 | East-central Perimeter - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB50 | Southeast Corner - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |

TABLE 1
Soil Boring and QA/QC Rationale

| Boring ID No. | Location | Proposed Depth(ft) | Proposed Sample Collection Rationale and Depth | Contaminants of Concern: Soil Analysis Parameters | Contaminants of Concern: Groundwater Analysis Parameters | Notes / Recognized Environmental Condition (REC) | Total Soil Samples | Total Water Samples | Total Soil Gas Samples |
|---|---|---|---|---|---|---|---|---|---|
| FG-SB51 | West-central Perimeter - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB52 | Southwest Corner - Civic Building | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB53 | Northern Corner - Amphitheater | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB54 | Eastern Corner - Amphitheater | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB55 | Central Area - Amphitheater | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB56 | Southern Area - Amphitheater | Bedrock / Refusal | Potential structural footing location. If evidence of MGP material is present, collect soil sample from a 1-foot interval where the highest PID reading or visual/odor evidence of contamination occurs. If MGP material is present at another depth, collect second sample from a 1-foot interval using similar field screening criteria.If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations | 1 - 2 | - | - |
| FG-SB57 | West of B&V SP-90 | Bedrock / Refusal (~21') | Historical B&V soil probe identified coal tar coated clinkers with heavy tar odor at a depth of 7 - 8 feet bgs. If evidence of MGP material is present in the upper 10 feet bgs, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations; Evaluation of Proposed Harbor | 1 - 2 | - | - |
| FG-SB58 | North of B&V SP-90 | Bedrock / Refusal (~21') | Historical B&V soil probe identified coal tar coated clinkers with heavy tar odor at a depth of 7 - 8 feet bgs. If evidence of MGP material is present in the upper 10 feet bgs, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations; Evaluation of Proposed Harbor | 1 - 2 | - | - |
| FG-SB59 | East of B&V SP-90 | Bedrock / Refusal (~21') | Historical B&V soil probe identified coal tar coated clinkers with heavy tar odor at a depth of 7 - 8 feet bgs. If evidence of MGP material is present in the upper 10 feet bgs, collect soil sample from a 1-foot interval where the highest PIDs reading or visual/odor evidence of contamination occurs. If MGP material is present at a greater depth, collect second sample from a 1-foot interval using similar field screening criteria. If MGP product is suspected, sample only for TPH. If suspected contamination is present but no free product, sample for TPH/VOCs/SVOCs. If no evidence of contamination is encountered, collect single sample from soil/groundwater interface for VOCs/SVOCs only. | TCL VOCs TCL SVOCs TPH | NA | Historical MGP Operations; Evaluation of Proposed Harbor | 1 - 2 | - | - |
| FG-SG02 | TBD | 5 | Collect soil gas sample from an area where the highest PID readings and/or visual/olfactory evidence of contamination occurred during the coarse of the soil investigation, preferably in the footprint of the proposed civic building. | *TCL Volatile Chemicals (VCs) | NA | Historical MGP Operations | - | - | 1 |
| FG-SG03 | TBD | 5 | Collect soil gas sample from an area of the site where the highest PID readings and/or visual/olfactory evidence of contamination occurred during the coarse of the soil investigation | *TCL Volatile Chemicals (VCs) | NA | Historical MGP Operations | - | - | 1 |
| Duplicate Sample | TBD | NA | QA/QC - 1 duplicate per 20 samples for each soil and groundwater. Collect at location where original sample was collected in the upper 10 feet bgs and where VOC and SVOC analysis is to be performed. | TPH, TCL VOCs/SVOCs | NA | QA/QC | 1 | - | - |
| MS/MSD | TBD | NA | QA/QC - 1 MS/1 MSD per 20 samples for each soil and groundwater. Collect at location where original sample was collected in the upper 10 feet bgs and where VOC and SVOC analysis is to be performed. | TPH, TCL VOCs/SVOCs | NA | QA/QC | 2 | - | - |

TABLE 1
Soil Boring and QA/QC Rationale

| Boring ID No. | Location | Proposed Depth (ft) | Proposed Sample Collection Rationale and Depth | Contaminants of Concern | | Notes / Recognized Environmental Condition (REC) | Total Soil Samples | Total Water Samples | Total Soil Gas Samples |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Soil Analysis Parameters | Groundwater Analysis Parameters | | | | |
| Equipment Blank | TBD | NA | A single equipment blank per 20 samples for each soil and groundwater. Collect between samples or at end of each day. | TPH, TCL VOCs/SVOCs | NA | QA/QC | - | 1 | - |
| Trip Blank | NA | NA | To be shipped with VOC samples in cooler. A single trip blank per cooler containing samples for VOC analysis for water and soil samples shall be included. | TCL VOCs | NA | QA/QC | - | - | - |
| Preservative Blank | NA | NA | A single preservative blank submitted per site or per lot of bottles for analysis of VOC soil and water samples. To be shipped with VOC samples in cooler. | TCL VOCs | NA | QA/QC | - | - | - |

B&V - Black & Veatch
bgs - below ground surface
MGP - Manufactured Gas Plant
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PID - Photoionization Detector
SVOCs - Semi-Volatile Organic Compounds
TBD - To be determined
TCL - Target Compound List (35 IAC Part 740)
TPH - Total Petroleum Hydrocarbons
VOCs - Volatile Organic Compounds

The soil borings will be completed using a hydraulic push Geoprobe equipped with a standard or dual-tube macrocore sampler. A minimum of one soil sample from each proposed soil boring will be collected for laboratory analysis at a depth where contamination is most likely to occur with respect to the specific REC or where contamination has previously been detected. The collected soil samples will be analyzed for constituents that are located on the IEPA's Target Compound List (TCL) of parameters for volatile and semi-volatile organic compounds (VOCs/SVOCs). Total Petroleum Hydrocarbon analysis may also be completed to evaluate the presence of free product. All analytical results will be compared to the IEPA's Tiered Approach to Corrective Action Objectives (TACO) to evaluate site conditions.

To ensure the investigation occurs at locations most likely to be impacted by RECs or where contamination has been identified by previously completed soil borings, location coordinates will be developed using CAD software for each location. Prior to the investigation, a survey crew will stake these locations in the field with labeled survey lath. Any deviations from the staked locations will be noted in the field and the final Site Plan drawing adjusted accordingly. The completed borings and monitoring wells will be plotted on a scaled image. The proposed locations are subject to change pending the identification of subsurface utilities, the presence of subsurface anomalies, and/or other limitations or discoveries encountered during sampling activities.

Previously completed soil boring logs identify the St. Peter Sandstone Formation as the primary bedrock unit below the site, beginning at approximately 15 - 20 feet below ground surface. The boring logs show the initial shallow groundwater table beginning at approximately 8 - 10 feet below ground surface and moving in a southerly direction towards the Illinois River.

## 2.2 Sampling Methods

### 2.2.1 Soil

Based on the historical soil boring logs, a wide variety of non-native fill materials are expected to be encountered throughout the site. The materials are likely related to past site uses and consist of ash/cinders and broken brick and clay, intermixed with various compositions of sand, silt, and clay. Please refer to the City's USEPA approved Quality Assurance Project Plan (QAPP) for all soil sampling methods and Standard Operating Procedures (SOPs) that will be adhered to.

### 2.2.2 Groundwater

Not applicable. At this time, the installation of groundwater monitoring wells and subsequent sampling is not being proposed. It appears that groundwater has been successfully evaluated and is covered as part of the existing NFR letter for the track and field areas. However, if the soil sample results warrant additional investigation related to groundwater, an Amended SAP will be submitted for approval prior to commencing with activities.

### 2.2.3 Hydrogeology

Not applicable. At this time, a groundwater investigation is not being proposed. It appears that hydrogeology has been successfully evaluated and is covered as part of the existing NFR letter for the track and field areas. However, if the soil sample results warrant additional investigation related to groundwater and hydrogeology, an Amended SAP will be submitted for approval prior to commencing with activities.

## 3.0 QA/QC SAMPLE REQUIREMENTS

The number of field QA/QC samples will be collected in accordance with the approved QAPP. Table 2 summarizes the QA/QC samples for the initial proposed sampling activities for the site. The requirements are also present on Table 1 for quick user reference.

## TABLE 2

## QA/QC Sample Requirements

| | QC Sample Type | Frequency of Sample/Analysis | Details |
|---|---|---|---|
| **Field Samples** | Duplicate Samples | 1 duplicate per 20 samples per matrix, or 1 duplicate per sample matrix if fewer than 20 samples | Duplicate sample to be collected by the same methods at the same time as the original sample. Used to verify sample and analytical reproducibility. |
| | Equipment Blanks | 1 equipment blank per 20 samples, minimum<br>1 equipment blank per day per sample matrix | Distilled water placed into contact with sampling equipment. Used to assess quality of data from field sampling and decontamination procedures. |
| | Trip Blanks | 1 trip blank per cooler containing samples for VOC analysis for water and soil samples | Laboratory prepared organic-free blank to assess potential contamination during sample container shipment and storage. |
| | Preservative Blanks | 1 preservative blank per site or per lot of bottles analyzed for VOC soils | If soil VOC samples are to be preserved with methanol and/or sodium bisulfate, one set of preserved vials will be included to assess potential contamination during sample container shipment and storage. |
| | Field Blanks | 1 field blank per day per sample matrix when equipment blanks are not collected | Distilled water placed into sample jars when all disposable sampling equipment is used and equipment blanks are not collected. Used to assess potential contamination during field sampling activities. |
| | Matrix Spike/ Matrix Spike Duplicate | 1 MS/MSD per 20 or fewer samples per matrix | Laboratory spiked sample to evaluate matrix and measurement methodology. |
| **Internal Lab Samples** | Method Blanks | 1 method blank per batch of samples prepared, or per lab SOP | Laboratory blank sample to assess potential for contamination from laboratory instruments or procedures. |
| | Laboratory Control Samples and Duplicates | Analyzed as per method requirements and laboratory SOPs | Evaluates laboratory reproducibility. |

## 4.0 ANALYSIS STRATEGY

A prior completed Phase I ESA has identified RECs associated with the historical use of the site. Accordingly, the initial sampling strategy will be to analyze samples for the contaminants of concern. In summary, soil investigation and sampling will be conducted first, followed by a groundwater investigation if deemed necessary. All subsequent investigation activities, if necessary, will be proposed in an Amended SAP for USEPA approval and will remain consistent with our approved QAPP.

## 5.0 SITE INVESTIGATION BEST MANAGEMENT PRACTICES

The need for site investigation is common and can occur at all points during the assessment and cleanup process. Consideration of green assessment and remediation options during the early phases of the project will help reduce cumulative environmental footprints of a cleanup and redevelopment. A green site investigation relies on information gained from a thorough preliminary assessment that identifies target areas and site conditions through minimally-intrusive techniques. Use of innovative field analytics and direct sensing tools can reduce the environmental footprint of follow-on characterization or cleanup activities, particularly by limiting mobilizations in the field and increasing the density of analytical data.

A review of USEPA's *Green Remediation Best Management Practices: Site Investigation* factsheet (EPA 542-F-09-004) was completed in order to identify any best management practices (BMPs) that could be applied to this investigation. The following BMPs are proposed for this particular investigation.

- As previously proposed, we have developed a well-conceived SAP that can help assure that collected data is truly representative of the actual site conditions. Collection of representative data during the first round of field activities will reduce the need for subsequent sampling.
- All battery-operated equipment will utilize rechargeable batteries and will be turned off when not in use to reduce energy consumption.
- We will limit the number of vehicles deployed to the site to ensure only the minimum amount required is used.
- Idling of equipment and vehicles will be prohibited when not in use or required, in an effort to reduce fossil fuel consumption.

- An electronic network for data transfers, deliverables, and document preparation will be established between all project team members to eliminate unnecessary printing, thus reducing ink, paper, and energy needs.

- We are proposing the use of direct-push technology (DPT) for the advancement of soil borings, which is 50-60% more time efficient than rotary drill rigs and avoids excess drill cuttings that require assessment and disposal as an investigation-derived waste (IDW).

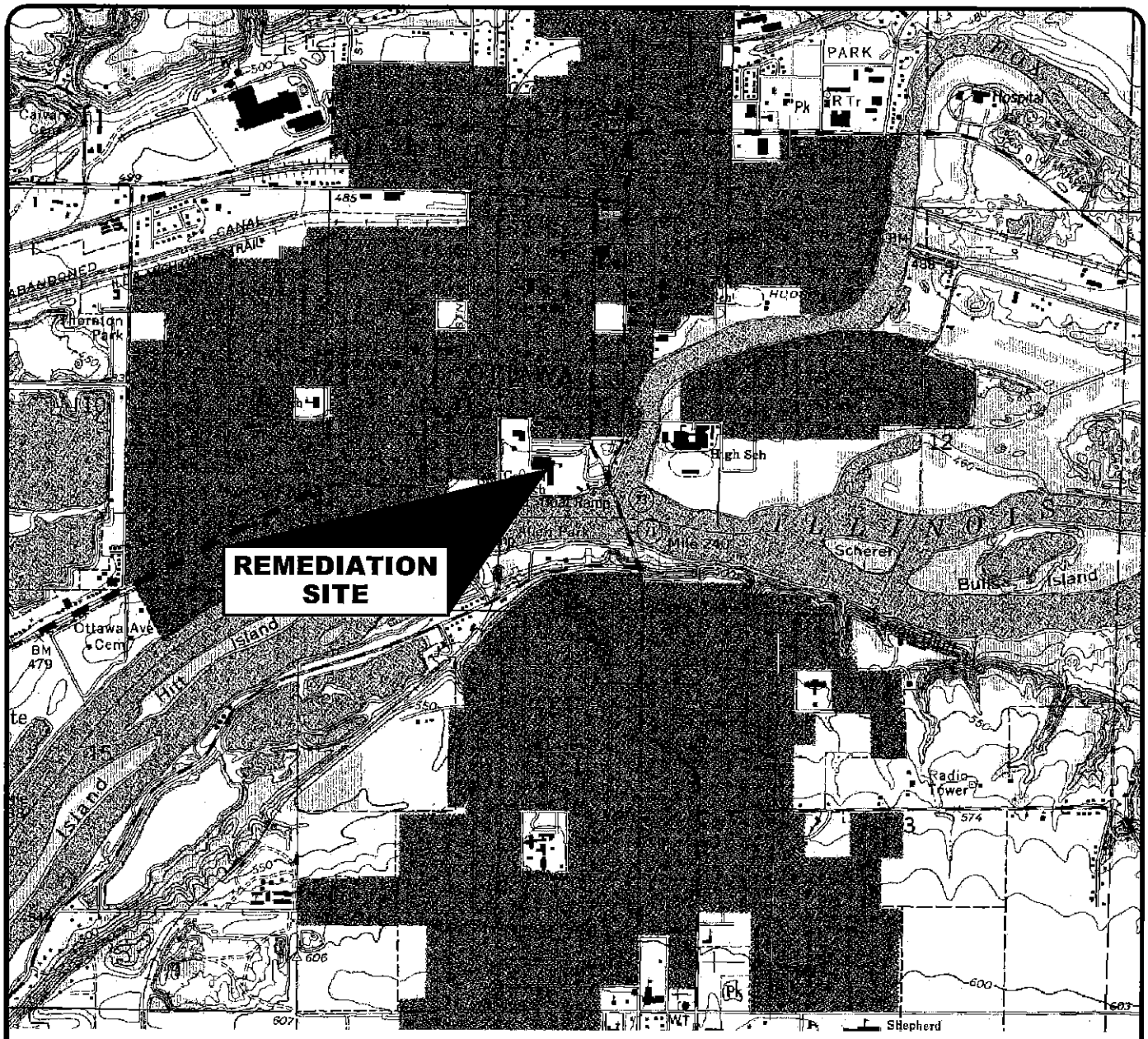
- Generated soil cuttings will be isolated and spoiled on-site upon confirmation from laboratory analysis that they are not contaminated. For IDW requiring special disposal, the nearest permitted facility will be utilized.

- We will recycle cardboard boxes, beverage containers, glass sample bottles, and single-use plastic bags. Non-disposable coolers will be utilized to ensure they may be used over and over again.

# FIGURES

# FIGURE 1

## Site Vicinity Map




# FIGURE 1

## SITE LOCATION MAP
## OTTAWA, CITY OF
## 400 CLINTON STREET
## OTTAWA ILLINOIS 61350

N
W E
S

2000 0 2000 FEET

GRAPHIC SCALE IN FEET

03/03/14

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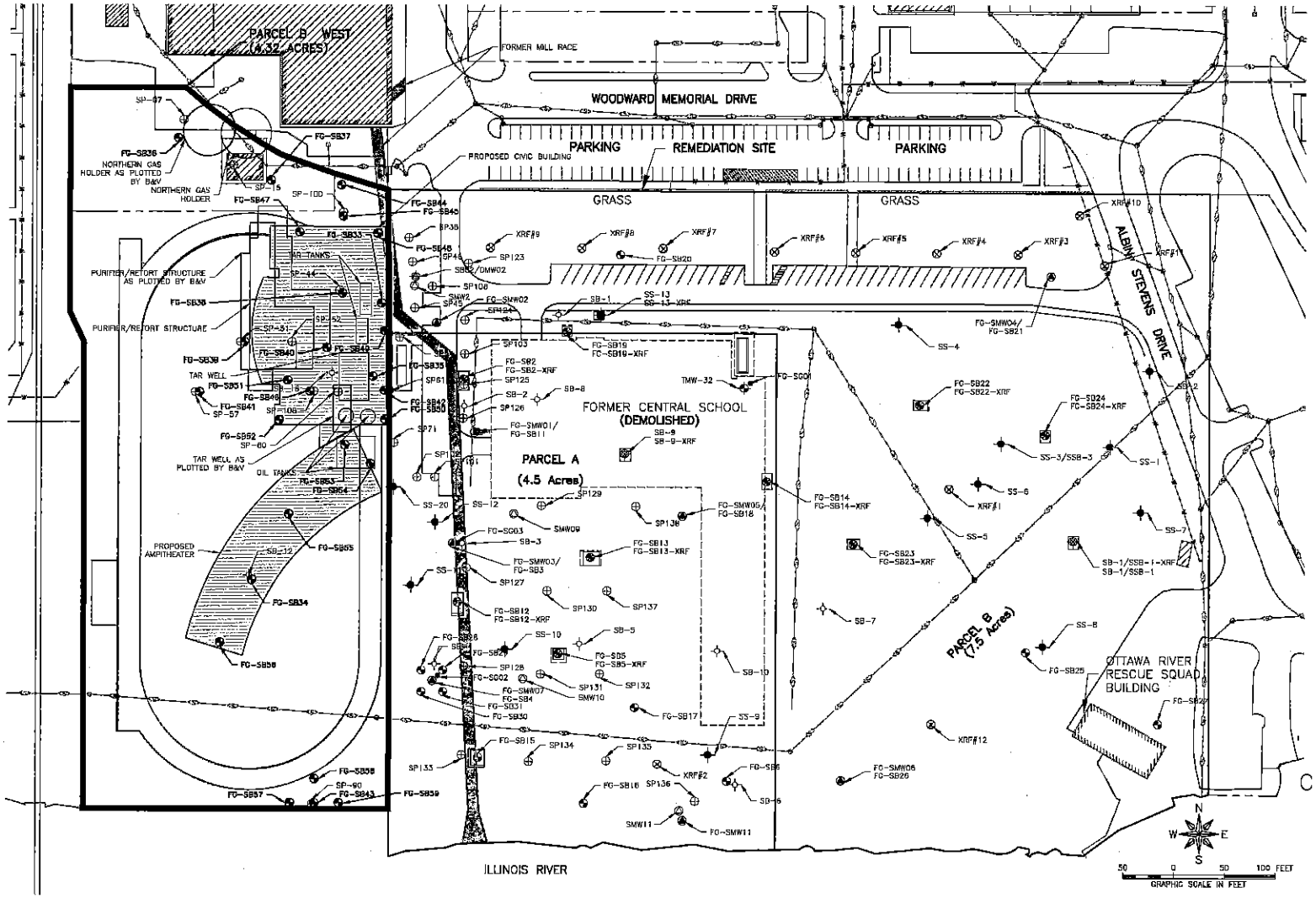
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

G:\EGLPT\13\13-280\13-280 A01E USGS-LOC.dwg, USGS

FIGURE 2

Site Plan




LEGEND

| | |
|---|---|
| SB-1 | AIRES PHASE II SOIL BORING LOCATION |
| SS-1 | AIRES SURFACE SOIL SAMPLE |
| SP-1 | BLACK & VEATCH SOIL PROBE LOCATION |
| SB-02 | BLACK & VEATCH SOIL BORING |
| SMW/DMW | BLACK & VEATCH MONITORING WELL LOCATION |
| SB | FEHR GRAHAM SOIL BORING LOCATION (FG-SB) |
| SB | PROPOSED FEHR GRAHAM SOIL BORING LOCATION (FG-SB) |
| TMW | FEHR GRAHAM TEMPORARY MONITORING WELL |
| FG-SG | FEHR GRAHAM TEMPORARY SOIL GAS WELL |
| SB/SMW | FEHR GRAHAM SOIL BORING/ MONITORING WELL LOCATION (FG-SMW) |
| XRF# | FEHR GRAHAM SURFACE SCREENING LOCATION |
| | STORM SEWER/SANITARY SEWER LINE |
| | WATER MAIN |
| | FENCE |

# FIGURE 2 – SITE PLAN
## CENTRAL SCHOOL PROPERTIES
## PARCEL B – WEST
## 400 CLINTON STREET
## OTTAWA IL 61350

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IOWA
WISCONSIN

PLOT DATE: 7/11/14


OWNER/DEVELOPER:
CITY OF OTTAWA
301 W. MADISON ST.
OTTAWA, IL 61350

PROJECT AND LOCATION:
CENTRAL SCHOOL PROPERTIES
PARCEL B WEST
400 CLINTON ST.
OTTAWA, IL 61350

DRAWN BY: S.G.
APPROVED BY: R.W.
DATE: 7/11/2014
SCALE:

| REVISIONS | | |
|---|---|---|
| REV. NO. | DESCRIPTION | DATE |
| | | |

DRAWING:
12-569H A04B – FIGURE 2 – 22X36

JOB NUMBER:
12-509H A04B

SHEET NUMBER:
1 of 1

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# APPENDIX E

# SITE-SPECIFIC HEALTH AND SAFETY PLAN

## APPENDIX E

## SITE-SPECIFIC HEALTH AND SAFETY PLAN

GENERAL INFORMATION

| | | | |
|---|---|---|---|
| Project Name: | Former Central School Properties; Parcel B West | | |
| Location: | 400 Clinton Street, Ottawa, Illinois 61350 | | |
| Project Manager: | Robert Wilhelmi | Office Phone: | 815-394-4700 |
| Plan Prepared by: | Erin Jarrett | Preparation Date: | 07/15/2014 |
| Plan Review by: | Robert Wilhelmi | Review Date: | 07/15/2014 |

| | |
|---|---|
| Brief Site History | The site currently contains an underutilized athletic track and field that is immediately adjacent to the former Central Elementary School, which was razed during the summer of 2013. The athletic track and field area subject to this SHPP is located on 4.32 acres at the western region of Parcel B. Identified past property operations within this area include those of a municipal gas plant, historical groundwater contamination, exceedances of TACO Tier 1 soil remediation objectives, former chemical house associated with the Illinois Starch Company's factory, a historical gasoline tank, the likely use of rodenticides at the former Norris Grain Elevator, and an out-of-service heating oil underground storage tank system. |
| Proposed Field Activities: | Advance soil borings for analysis of VOCs, SVOCs, and potential TPH. No groundwater monitoring wells are anticipated at this time. |

## HAZARDOUS SUBSTANCES

Refer to Table 1, which lists the Potential Hazardous Compounds.

## HAZARD EVALUATION

Hazardous Potential: (Low, medium, High, Comments): Low to medium, if released

Level of Protection and Upgrade Values: Level D

| PID READING (ppm) | PROTECTION LEVEL |
|---|---|
| Background | Level D |
| > Background <25 | Level D |
| > Background < 25 | Evacuate Area or Level C |
| ambient readings at > 25 < 50 | Evacuate Area or Level C |
| ambient readings at > 25 < 50 | Level B |
| $\geq$ 50 < 500 | Level B |
| $\geq$ 500 | Evacuate Area |

These action levels apply to all field work.

**Personal Protective Equipment:** Hard hats, safety glasses, steel-toe boots, work clothes, hearing protection, reflective vest, disposable gloves during sample handling procedures as well as with potentially contaminated materials. Weather appropriate clothing layers.

**Monitoring Equipment:** Photo-ionization detector (PID). PID calibrated every morning with isobutylene span gas. Monitor worker-breathing zone continuously with PID. Monitor borehole and soil samples.

**Site Control Procedures:** Only 40-Hour OSHA-certified workers allowed in exclusion zone. No smoking, eating, or drinking in exclusion zone. Hardhat and reflective vest must be worn within 50 feet of heavy equipment. Reflective vest must be work for all roadside work. Caution tape and or safety cones should be used to mark the location of the exclusion zone. Subsurface utilities should be marked by notifying "JULIE" prior to any drilling/excavation activities. Maintain safe distance from power lines.

**Disposal Procedure:** Investigation derived waste (IDW), including decontamination water and excess sample materials, generated from the sampling efforts will be containerized and stored in a secure location on site, to await final disposition along with other IDW materials to be generated in the future. Each container will be marked with the date, contents and source of contents.

**PHYSICAL HAZARDS**

| ACTIVITY | POTENTIAL HAZARD | PRECAUTION MEASURES |
|---|---|---|
| Test Pit Excavation | Collapse of Excavation | No field personnel will enter excavations. Sidewalls will be sloped |
| | Striking underground utilities | Clear utilities with local contacts before excavating |
| | Lacerations and contusions from moving machinery | Person certified in first aid and first aid kit on site. |
| | Injury from impact from motor vehicles and heavy equipment | Regular vehicle inspections and necessary safety items on equipment. Refer to 29 CFR 1926.600 to 1926.602 |
| | Slip, trip, and fall hazards | Constant awareness, signs, signals, and barricades. Refer to 29 CFR 1926.200 to 1926.202. |
| | Inhalation of contaminants | Monitoring, Respiratory Protection Refer to 29 CFR 1910.134 |
| Drilling | Drill through underground utilities | Clear utilities with local contacts before drilling. |
| | Potential impact from falling objects | Use proper personal protective clothing. Proper handling of equipment. Refer to 20 CPR 1926.251. |
| | Lacerations and contusions from moving machinery and physical objects | Person certified in first aid and first aid kit on site. |
| | Injury from impact from motor vehicles and heavy equipment | Regular vehicle inspections and necessary safety items on equipment. Refer to 29 CFR 1926.600 to 1926.602. |
| Soil and Groundwater Sampling | Slip, trip, and fall hazards | Constant awareness, signs, signals, and barricades. Refer to 29 CPR 1926.200 to 1926.202. |
| | Noise-induced hearing loss | Use earmuff or foam earplugs. |
| | Overhead power lines | Ensure clear path for drill rig tower (minimum of 10 feet). |
| | Cold-heat stress | Monitoring, keep clothing dry. |
| | Slip, trip, and fall hazards | Constant awareness, signs, signals, and "barricades. Refer to 29 CFR 1926.200 to 1926.202. |
| | Lacerations and contusions | Person certified in first aid and first aid kit on-site. |
| | Lifting hazards | Training in proper lifting techniques and constant awareness. |
| | Cold-heat stress | Monitoring, keep clothing dry. |

## EMERGENCY RESPONSE

**Emergency Procedures:** Designated H&S officer is responsible for all H&S procedures on site. Personnel should be aware of and report the occurrence of these symptoms: irritation of eyes, nose, or respiratory system; giddiness; light-headed; nausea; staggered gate; fatigue; depression; abdominal pain.

## EMERGENCY SERVICES:

| Location | Name | Telephone |
|---|---|---|
| Emergency Medical Facility | OSF Saint Elizabeth Medical Center<br>1100 East Norris Drive<br>Ottawa, IL 61350 | 911 |
| | Non-emergency | 815-433-3100 |
| Route to Hospital | See attached Map | |
| Ambulance Service | Ottawa Fire Department | 911 |
| Fire Department | Ottawa Fire Department | 911 |
| | Non-emergency | 815-434-3785 |
| Police Department | Ottawa Police Department | 911 |
| | Non-emergency | 815-433-2131 |
| IL Poison Center | | 800-222-1222 |
| Site Contact: | Andrew Schaaf | 217-390-8000 |

**AUTHORIZED PERSONEL:**

| Position | Name | Telephone |
|---|---|---|
| Site H&S Officer | Andrew Schaaf | 217-390-8000 |
| Site Personnel | Erica Toledo, Andrew Schaaf, Chris Lewis | 815-238-3824 (Erica) |
| Office H&S Officer | Joel Zirkle | 815-394-4700 |
| Project Manager | Robert Wilhelmi | 815-821-3592 (cell) |
| Office Manager | Joel Zirkle | 815-394-4700 |

## TABLE 1
## POTENTIAL HAZARDOUS COMPOUNDS

VOCs:

| Chemical | CAS Number | TWA | IDLH | Odor Threshold | Ionization Potential | Physical Description/Health Effects/ Symptoms |
|---|---|---|---|---|---|---|
| **PCE Tetrachloroethylene** | 127-18-04 | 100 ppm | Ca [150 ppm] | N/A | 9.32 eV | Colorless liquid with a mild, chloroform-like odor. Reactive with strong oxidizers, chemically-active metals such as lithium, beryllium & barium, caustic soda, sodium hydroxide, potash. Noncombustible liquid, but decomposes in a fire to hydrogen chloride and phosgene. Routes of exposure: inhalation, absorption, ingestion, contact with eyes. |
| **TCE Trichloroethylene** | 79-01-6 | 100 ppm | Ca [1000 ppm] Potential carcinogen | N/A | 9.45 eV | Colorless liquid (unless dyed blue) with a chloroform-like odor. Combustible liquid, but burns with difficulty. Reactive with strong caustics & alkalis; chemically-active metals. Routes of exposure: inhalation, absorption, ingestion, contact with eyes. |
| **TCA Trichloroethane** | 79-00-5 | 45 mg/m3 | Ca [100 ppm] | N/A | 11 eV | Colorless liquid with a sweet, chloroform-like odor. Reactive with strong oxidizers and caustics; chemically-active metals. Combustible liquid, forms dense soot. Routes of exposure: inhalation, absorption, ingestion, and contact with eyes. |
| **1,1 Dichloroethane** | 75-34-3 | 400 mg/m3 | 3000 ppm | N/A | 11.06 eV | Colorless, oily liquid with a chloroform-like odor. Reactive with strong oxidizers and strong caustics. Class 1B flammable liquid. Routes of exposure: inhalation, ingestion, contact with eyes. |

| Chemical | CAS Number | TWA | IDLH | Odor Threshold | Ionization Potential | Physical Description/Health Effects/ Symptoms |
|---|---|---|---|---|---|---|
| **1,2 Dichloroethene** | 540-59-0 | 790 mg/m3 | 1000 ppm | N/A | 9.65 eV | Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor. Class 1B flammable liquid. Reactive with strong oxidizers, strong alkalis, potassium hydroxide, copper [usually contains inhibitors to prevent polymerization.] Routes of exposure: inhalation, ingestion, contact with eyes. |
| **1,1 Dichloroethene** | 75-35-04 | N/A | N/A | N/A | N/A | Colorless liquid with a mild, sweet smell. It is also called vinylidene chloride. Routes of exposure: inhalation, ingestion, contact with eyes. |
| **1,1,2 Trichloroethane** | 79-00-5 | 45 mg/m3 [skin] | Ca [100 ppm] | N/A | 11 eV | Colorless liquid with a sweet, chloroform-like odor. Combustible liquid, forms dense soot. Reactive with strong oxidizers & caustics; chemically-active metals. Routes of exposure: inhalation, absorption, ingestion, contact with eyes. |
| **Chlorobenzene** | 108-90-7 | 350 mg/m3 | 1000 ppm | N/A | 9.07 eV | Colorless liquid with an almond-like odor. Reactive with strong oxidizers. Routes of exposure: inhalation, ingestion, contact with eyes. |
| **Toluene** | 108-88-3 | 375 mg/m3 | 500 ppm | | 8.82 eV | Colorless liquid with a sweet, pungent, benzene-like odor. Reactive with strong oxidizers. Exposure routes: inhalation, absorption, ingestion, contact with eyes. |
| **Ethyl Benzene** | 100-41-4 | 435 mg/m3 | 800 ppm [10% LEL] | | 8.76 eV | Colorless liquid with an aromatic odor. Class 1B flammable liquid. Reactive with strong oxidizers. Routes of exposure: inhalation, ingestion, contact with eyes. |

| Chemical | CAS Number | TWA | IDLH | Odor Threshold | Ionization Potential | Physical Description/Health Effects/ Symptoms |
|---|---|---|---|---|---|---|
| Xylene | 1330-20-7 | 435 mg/m3 | 900 ppm | | 8.56 eV | Colorless liquid with an aromatic odor. Reactive with strong oxidizers and strong acids. Class 1C flammable liquid. Routes of exposure: inhalation, absorption, ingestion, contact with eyes. |
| Benzene | 71-43-2 | 1 ppm | Ca [500 ppm] | N/A | 9.24 eV | Colorless to light-yellow liquid with an aromatic odor [A solid below 42°F. Class 1B flammable liquid. Reactive with strong oxidizers, many fluorides & perchlorates, nitric acid. Routes of exposure: inhalation, absorption, ingestion, contact with eyes. |

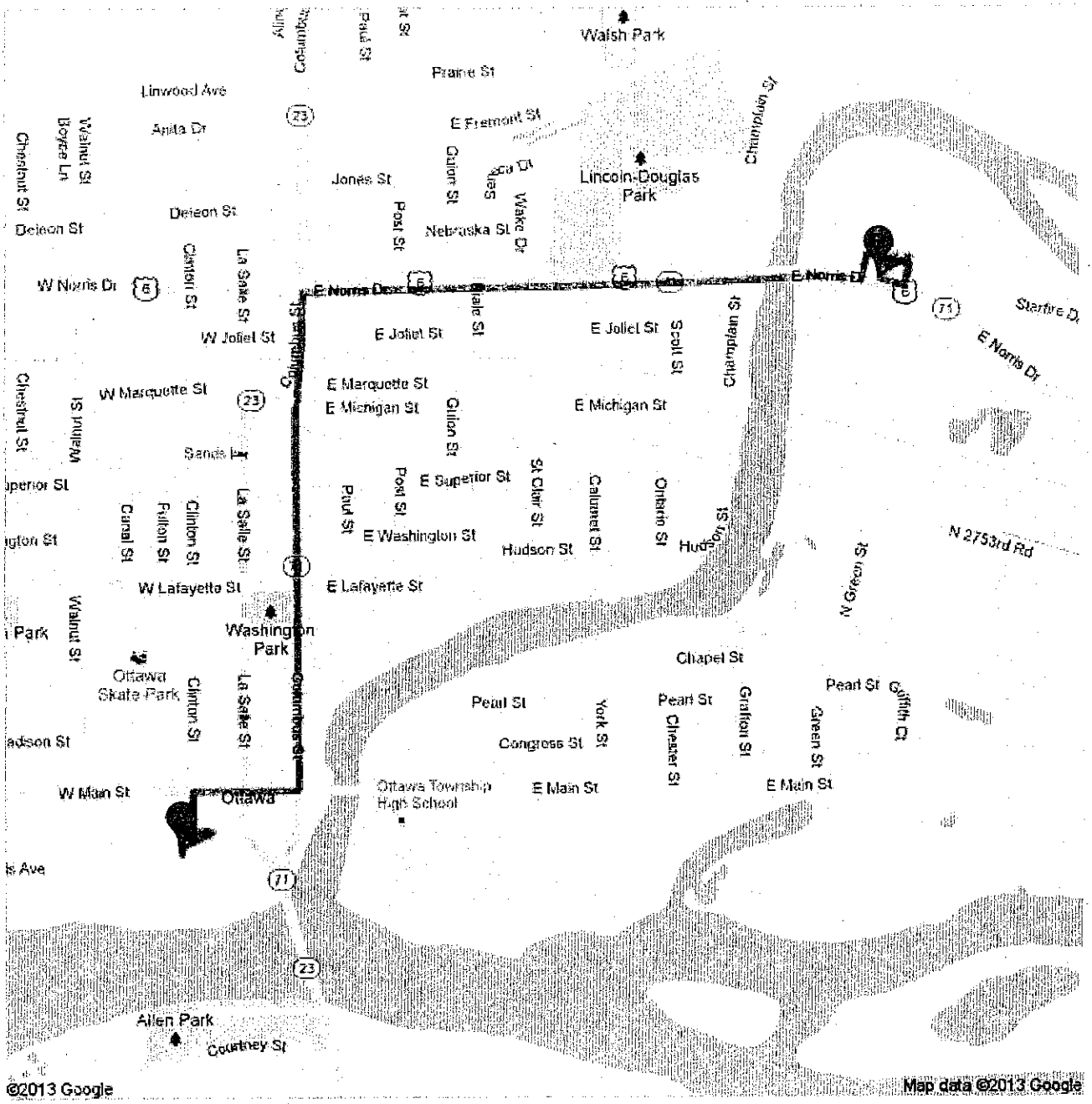
PNAs:

| Chemical | TWA | IDLH | Odor Threshold | Ionization Potential | Physical Description/Health Effects/Symptoms |
|---|---|---|---|---|---|
| **Acenaphthene** | 0.2 mg/m3 | 80 mg/m3 | 0.08 ppm | NA | White needle-like crystals. Irritates eyes, skin, and mucous membranes. Causes dermatitis, bronchitis, and lung, kidney, and skin cancer. Carcinogen. |
| **Acenaphthylene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Crystalline sold. Irritates and burns eyes and skin. Causes dizziness, suffocation, dermatitis, bronchitis, and lung, skin, and kidney cancer. Mutagen and carcinogen. |
| **Anthracene** | 0.2 mg/m3 | 80 mg/m3 | NA | 7.23 eV | Colorless to yellow crystals with blue fluorescence. Irritates eyes, skin, and respiratory tract. Causes dermatitis, bronchitis, and lungs, skin, and kidney cancer. Mutagen and carcinogen. |
| **Benzo(a)anthracene** | 0.2 mg/m3 | 80 mg/m3 | NA | 7.53 eV | Colorless, crystalline solid with greenish-yellow fluorescence. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis and lung, kidney, and skin cancer. Carcinogen. |
| **Benzo(a)pyrene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Pale-yellow, crystalline solid with a faint aromatic odor. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis, thickening and discoloration of the skin, and lung, skin, and kidney cancer. Mutagen, experimental teratogen, and carcinogen. |
| **Benzo(b)fluoranthene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Colorless, needle-like crystals. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis, and lung, skin, and kidney cancer. Carcinogen. |
| **Benzo(k)flouranthene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Pale-yellow, needle-like crystals. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis, and lung, skin, and kidney cancer. Carcinogen. |

| Chemical | TWA | IDLH | Odor Threshold | Ionization Potential | Physical Description/Health Effects/Symptoms |
|---|---|---|---|---|---|
| **Chrysene** | 0.2 mg/m3 | 80 mg/m3 | NA | 7.75 eV | Colorless, crystalline solid with blue to red fluorescence. Irritates eyes, respiratory tract, and skin. Causes burns to skin and eyes, dermatitis, bronchitis and lung, kidney, and skin cancer. Mutagen and carcinogen. |
| **Dibenzo(a,h)anthracene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Colorless, plate- or leaf-like crystals. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis, and lung, skin, and kidney cancer. Mutagen and carcinogen. |
| **Indeno(1,2,3-cd)pyrene** | 0.2 mg/m3 | 80 mg/m3 | NA | NA | Yellow, crystalline solid. Solutions show greenish-yellow fluorescence. Irritates eyes, respiratory tract, and skin. Causes dermatitis, bronchitis, and lung, skin, and kidney cancer. Mutagen and carcinogen. |
| **Naphthalene** | 10 ppm | 250 ppm | 0.3 ppm | 8.1 eV | Colorless to brown solid with a moth-ball like odor. Irritates eyes, bladder, and skin. Causes headaches, confusion, excitement, convulsions, coma, vague discomfort, nausea, vomiting, abdominal pain, profuse sweating, jaundice, hematoma, hemoglobin in the urine, renal shutdown, dermatitis, eye disorders, and liver damage. Experimental teratogen and questionable carcinogen. |

Google

**Directions to Ottawa Regional Hospital & Healthcare Center**
1100 E Norris Dr, Ottawa, IL 61350
**2.0 mi – about 8 mins**



A 400 Clinton St, Ottawa, IL 61350

| | | |
|---|---|---|
| | 1. Head **north** on **Clinton St** toward **Lincoln Pl** | go 131 ft<br>total 131 ft |
| ↱ | 2. Turn right onto **Lincoln Pl** | go 82 ft<br>total 213 ft |
| ↰ | 3. Turn left onto **Clinton St** | go 341 ft<br>total 0.1 mi |
| ↱ | 4. Take the 2nd right onto **W Main St**<br>About 2 mins | go 0.2 mi<br>total 0.3 mi |
| ↰ | 5. Turn left onto **Columbus St**<br>About 2 mins | go 0.7 mi<br>total 1.0 mi |
| ↱ | 6. Turn right onto **E Norris Dr**<br>About 2 mins | go 0.8 mi<br>total 1.8 mi |
| ↰ | 7. Turn left toward **E Norris Dr**<br>About 53 secs | go 197 ft<br>total 1.8 mi |
| ↱ | 8. Turn right toward **E Norris Dr** | go 335 ft<br>total 1.9 mi |
| ↱ | 9. Take the 1st right toward **E Norris Dr** | go 167 ft<br>total 1.9 mi |
| ↱ | 10. Turn right onto **E Norris Dr**<br>Destination will be on the right | go 194 ft<br>total 2.0 mi |

B **Ottawa Regional Hospital & Healthcare Center**
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